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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,701	07/28/2003	Tetsuo Tsutsui	0553-0374	5182

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EXAMINER

PATEL, ASHOK

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/628,701

Applicant(s)

TSUTSUI, TETSUO

Examiner

Ashok Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 March 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 16 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 032406.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 03/24/2006 has been entered.

2. The information disclosure statement filed 03/24/2006 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) a list of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) the application number of the application in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has

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been placed in the application file, but the information referred to therein has not been considered.

The U.S. Patent number 6,740,938, as listed on PTOL-1449, is incorrect with respect to inventors and publication date.

Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

3. The disclosure is objected to because of the following informalities: in specification, page 15, line 5 from the bottom: the term "601" should be corrected to --610--. Appropriate correction is required.

4. Figure 7A and 7b labeled should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the

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page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The following is a quotation of the first paragraph of 35

U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for semiconductor compounds literally listed at paragraph bridging pages 15 and 16. The specification does not reasonably provide enablement for *any other semiconductor compound which is not literally listed in the paragraph bridging pages 15 and 16*. Note the terms "so on" at lines 1 and 2 of page 16 means any semiconductor not even literally listed at paragraph bridging pages 15 and 16. The term "so on" does not ascertain scope of the semiconductor compounds. The Examiner proposes to delete the term "so on" at lines 1 and 2 of page 16.

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7. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 4: the term "electroluminescent film" renders the claim vague since it literally means that the electroluminescent film is a single film. Claim and some of dependent claims however recite the same single electroluminescent film including additional layers in it. Since the electroluminescent film is in fact a multi-layered structure, and not a single film, the Examiner proposes to amend claim 1 to change the term "electroluminescent film" to --electroluminescent film structure--.

Dependent claims 3-5 should be amended to change the term "electroluminescent film" to --electroluminescent film structure--.

Claim 4, the terms "an organic compound....." at lines 2 and 3 renders the claim vague since it remain unclear as to whether or not the organic compound of line 2 and 3 is same as an organic compound recited in claim 1, line 4.

Claim 6, the terms "an organic compound" at line 2 renders the claim vague since it remain unclear as to whether or not the

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organic compound of line 2 is same as an organic compound recited in claim 1, line 4.

Claims 2 and 6-9 are necessarily rejected since they depend upon rejected claim 1.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Eguchi et al (USPN 4,741,976, of record).

Eguchi et al disclose applicant's claimed organic electroluminescent device (at least Figures 1-2) including: first and second electrodes (1, 2, 25, 26); and an electroluminescent film (multilayered EL structure 20) containing an organic compound provided between the first and second electrodes, wherein a carrier generation layer (21-2 and 22-2 or 21-1 and 22-1) is embodied as a floating electrode in the electroluminescent film; wherein a first insulting film (23-1) is provided between the first electrode and the electroluminescent film, the first insulting film preventing a

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carrier injection from the first electrode to the electroluminescent film; and wherein a second insulating film (23-3) is provided between the second electrode and the electroluminescent film, the second insulating film preventing a carrier injection from the second electrode to the electroluminescent film.

As to claim 2, Eguchi et al disclose the EL device being driven by AC environment (col. 47, paragraph 3).

As to claims 3, 7 and 8, Eguchi et al disclose the electroluminescent film (structure) including a layer having bipolar (electron acceptor and electron donor) property.

As to claim 5, Eguchi et al disclose the electroluminescent film (structure) having a polymer having a bipolar property including a x-conjugated system or a c-conjugated system (col. 5, lines 25-63).

As to claim 6, Eguchi et al disclose the carrier generation layer (21-2 and 22-2 or 21-1 and 22-1) including an organic compound (col. 9, line 67 - col. 10, line 22).

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eguchi et al, as applied to claim 1.

As to claim 4, Eguchi et al disclose the organic compound (ED type) of the electroluminescent film (structure) having electron-transporting property. However, Eguchi et al do not disclose the organic compound of the electroluminescent film (structure) having or hole-transporting property, as claimed by applicant. However, it is known in the EL device art to provide an organic hole-transport layer for transporting holes into the EL layer.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Eguchi et al's EL organic device and include the organic hole-transport layer for transporting holes into the EL layer during operation.

As to claim 9, Eguchi et al do not disclose the carrier generation layer having an electric conductivity of  $10^{-10}$  S/m or more. However, applicant's claimed electric conductivity of  $10^{-10}$  S/m or more it would have been obvious to one of ordinary skill in the art since it has been held that where general conditions

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of the claim are discovered in the prior art, discovering the optimum or workable range of electric conductivity involves only routine skill in the art. In re Aller, 105 USPQ 233.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lin et al and Kim et al each are cited for showing general a hole transporting and electron transporting layer in the organic EL device. Oh et al and Watanabe each are cited for showing insulating films provided between electrodes and EL layer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok Patel whose telephone number is 571-272-2456. The examiner can normally be reached on Monday-Thursday.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ashok Patel  
Primary Examiner  
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